

A welding apparatus using ultrasonic sensing is described and which includes a movable welder having a selectively adjustable welding head for forming a partially completed weld in a weld seam defined between adjoining metal substrates; an ultrasonic assembly borne by the moveable welder and which is operable to generate an ultrasonic signal which is directed toward the partially completed weld, and is further reflected from same; and a controller electrically coupled with the ultrasonic assembly and controllably coupled with the welding head, and wherein the controller receives information regarding the ultrasonic signal and in response to the information optimally positions the welding head relative to the weld seam.